

## CLAIMS:

1. An integrated circuit (51) having a power distribution network, the power distribution network comprising a power bus (67, 69) and a ground bus (71, 73) for supplying power from respective power and ground pads (53, 55) to a plurality of circuit elements (61a, 61b, 63) on the integrated circuit, characterized in that the power distribution network  
5 comprises a plurality of decoupling cells (65) for providing a static current flow between the power pad (53) and the ground pad (55), and wherein the power distribution network is configured such that, for any given circuit element on the integrated circuit, the combined distance between the power pad and said circuit element, and between the ground pad and said circuit element, is constant.  
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2. An integrated circuit as claimed in claim 1, wherein the power distribution network is configured such that, as the distance of any given circuit element from the power pad (53) increases, the distance from the ground pad (55) decreases in a complementary manner.  
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3. An integrated circuit as claimed in claim 1 or 2, wherein the power pad (53) and the ground pad (55) are arranged at diagonally opposite corners of the integrated circuit.
4. An integrated circuit as claimed in any one of the preceding claims, wherein  
20 the power distribution network comprises:
  - a power bus comprising a vertical section (67) connected to the power pad (53), and one or more horizontal sections (69) connected to the vertical section (67);
  - a ground bus comprising a vertical section (71) connected to the ground pad (55), and one or more horizontal sections (73) connected to the vertical section (71);  
25 wherein the vertical section of the power bus is arranged parallel to the vertical section of the ground bus, such that the one or more horizontal sections (69) of the power bus interleave the one or more horizontal sections (73) of the ground bus.

5. An integrated circuit as claimed in claim 4, wherein a horizontal section (69) of the power bus and a horizontal section (73) of a ground bus form a row (75) for powering one or more of the circuit elements.
- 5 6. An integrated circuit as claimed in claim 5, wherein one or more circuit elements are located between the horizontal section (69) of the power bus and the horizontal section (73) of the ground bus.
7. An integrated circuit as claimed in any one of the preceding claims, wherein  
10 the decoupling cells (65) include decoupling capacitors.
8. An integrated circuit as claimed in claim 7, wherein the decoupling cells are configured to be the same height as the circuit elements.
- 15 9. An integrated circuit as claimed in claim 8, wherein the decoupling cells are arranged between circuit elements on the integrated circuit.
10. An integrated circuit as claimed in any one of the preceding claims, wherein  
the power distribution network comprises one or more smaller power distribution networks  
20 having the same configuration.